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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/506,931 | 09/08/2004 | Dirk Schmidt | P/4306-9 (PCT) | 7011 |
| 2352 | 7590 | 07/27/2005 | EXAMINER | |
| OSTROLENK FABER GERB & SOFFEN 1180 AVENUE OF THE AMERICAS NEW YORK, NY 100368403 | | | LAM, THANH | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2834 | |

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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|------------------------------|------------------------|--|---------------------|--|
| Office Action Summary | Application No. | | Applicant(s) | |
| | 10/506,931 | | SCHMIDT ET AL. | |
| | Examiner | | Art Unit | |
| | Thanh Lam | | 2834 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 14 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 15-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Moslov et al. (US 6492756).

Regarding claim 15, Moslov et al. disclose a torque motor, comprising: an annular rotor (10); and an annular stator (20), the stator including a stator frame (32) with iron cores (24) and electrical windings (28) arranged thereon, the iron cores and the electrical windings are arranged in at least one independent stator segment (22,24,26,28) so that each stator segment is independently operable, each stator segment having its own housing, in which the segment's iron core and the segment's electrical winding are installed, each stator segment being configured to occupy a predetermined angular segment $\leq 180^\circ$ in the stator frame, each stator segment being detachably joined (see claim 19) to the stator frame so that the segment can be installed and removed independently of other stator segments without damaging its electrical winding or the stator frame.

Art Unit: 2834

Regarding claim 16, Moslov et al. disclose the stator includes a number of stator segments so that each stator segment occupies an angular segment $\leq 45^\circ$ in the stator frame.

Regarding claim 17, Moslov et al. disclose the annular rotor includes a rotor frame and permanent magnets (12) mounted on the rotor frame.

Regarding claim 18, Moslov et al. disclose the stator includes several stator segments, and further comprising electrical connecting elements that electrically connect the electrical windings of the several stator segments to one another, the electrical connecting elements being arranged to run between the stator segments and being detachably connected.

Regarding claim 19, Moslov et al. disclose the stator frame includes a lower stator ring and an upper stator ring, between which the at least one stator segment is positioned.

Regarding claim 20, Moslov et al. disclose comprising several frame webs arranged to webs (32) between the lower stator ring and the upper stator ring essentially vertically to the stator rings, the stator segment being mounted to the webs.

Regarding claim 21, Moslov et al. disclose lateral faces of the frame webs lie on different radial planes of the stator and are angled relative to one another.

Regarding claim 22, Moslov et al. disclose the frame webs have different thicknesses between similar stator segments, so that a distance between adjacent stator segments is adjustable.

Regarding claim 23, Moslov et al. disclose several similar stator segments are provided so as to form a closed annular stator.

Regarding claim 24, Moslov et al. disclose the motor is a three-phase AC synchronous motor, in which the electrical windings form three coils in each stator segment, which windings are coupled with associated coils of other stator segments.

Regarding claim 25, Moslov et al. disclose a heat sink, which has at least one flow channel through which a coolant can flow, mounted on each stator segment.

Regarding claim 26, Moslov et al. disclose detachable channel connectors arranged to connect the flow channels of adjacent stator segments with one another in series.

Regarding claim 27, Moslov et al. disclose a temperature sensor installed in each stator segment to monitor temperature of the electrical winding in the respective stator segment.

Regarding claim 28, Moslov et al. disclose the stator is configured to encompass the rotor as an outer ring, and further comprising a bearing installed between the stator and the rotor, and a measuring system integrated in the torque motor for determining relative position of the rotor and the stator.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Lam whose telephone number is (571) 272-2026. The examiner can normally be reached on tu-th 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren E. Schuberg can be reached on (571) 272-2044. The fax phone

Art Unit: 2834

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thanh Lam
Primary Examiner
Art Unit 2834
